

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: Walter C. Hernandez

Application No.: 10/802,388

Filed: March 17, 2004

For: SOUND CANCELING SYSTEMS AND METHODS

Confirmation No.: 3689

Group Art Unit: 2615

Examiner: George C. Monikang

Date: June 18, 2008

Mail Stop AF

Commissioner for Patents

P.O. Box 1450

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**REASONS IN SUPPORT OF APPLICANTS'  
PRE-APPEAL BRIEF REQUEST FOR REVIEW**

Sir:

This document is submitted in support of the Pre-Appeal Brief Request for Review filed concurrently with a Notice of Appeal in compliance with 37 C.F.R. 41.31 and with the rules set out in the OG of July 12, 2005 for the New Appeal Brief Conference Pilot Program.

**REMARKS**

Applicants hereby request a Pre-Appeal Brief Review (hereinafter "Request") of Claims 1-38 that were finally rejected in the Official Action mailed March 20, 2008 (the "Action"). Claims 1-2, 4-6, 8-23 and 26-37 stand rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,844,996 to Raviv (Raviv). Claims 24 and 25 stand rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,844,996 to Enzmann et al. (Enzmann). Claims 3, 7 and 38 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Raviv in view of various secondary references. Applicants submit that one or more elements needed for a prima facie rejection under 35 U.S.C. §§ 102(b)/103(a) are not present. Therefore, Applicants respectfully request review of the present application by an appeal conference prior to the filing of an Appeal Brief.

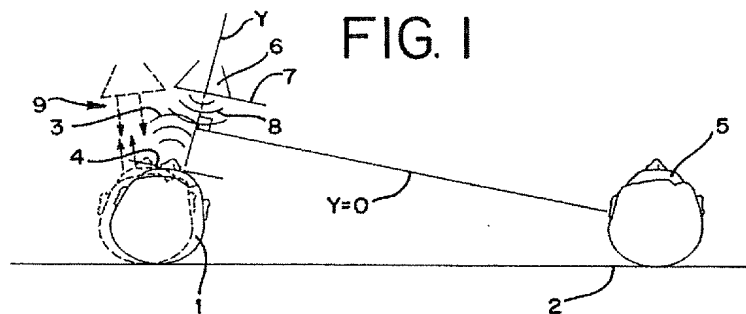
In the interest of brevity, and without waiving the right to argue additional grounds should this Request be denied, Applicants will point out the Action's omissions of one or more essential elements needed for a prima facie rejection.

**I. Independent Claims 1 and 18**

Claim 1 recites that the speaker is configured to direct a canceling sound toward a

cancellation location that is spatially remote from the sound source. Claim 18 recites "broadcasting a cancellation sound for canceling sound proximate the cancellation location in a direction toward the cancellation location" and the cancellation is spatially remote from the sound source. See **Figure 3a** of Applicants' Specification. In contrast, Raviv proposes a speaker **6** that emits a snore-canceling signal **8** towards the sound source, *i.e.*, in an opposing direction to that of the snore signal **3** and towards the snore source **4**.

The Action states that Raviv "discloses the speaker being able to move either side of the  $Y=0$  plane (Raviv, col. 6, lines 1-10)." However, Raviv clearly illustrates in **Figure 1** that the speaker **6** moves so that the snore canceling signal **8** is emitted towards the snore source **4** in an opposing direction along the Y-plane because "the best snore suppression occurs along a  $Y=0$  plane...". See Raviv, column 5, lines 63-64. Because the snore source **4** may move, "[c]onsequently, it is desirable to move the speaker **6** to maintain a doublet that cancels signals in the plane(s) coincident with the other person's ear." See column 6, lines 4-6 and column 5, line 51 – column 6, line 11.



In addition, Raviv discusses that propagation of the snore-canceling signal **8** in a direction along the Y-plane provides suppression of snoring signals at more than one point, which Raviv refers to as "global suppression." See column 6, lines 8-11. The techniques proposed by Raviv appear to be inoperable if the snore-canceling signal were directed somewhere other than towards the sound or snore source, and therefore, Raviv teaches away from the recitations of Claims 1 and 18.

For at least these reasons, Raviv does not disclose or render obvious the recitations of independent Claims 1 and 18. Claims 2-17 and 37-38 depend from Claim 1 and Claims 19-

23 depend from Claim 18. Accordingly, Applicants request that the rejections under 35 U.S.C. 102/103 of Claims 1-23 and 37-38 be reversed.

## **II. Claims 24 and 25**

Claim 24 recites a method for canceling sound including:

- detecting first sound at a first location;
- detecting a modified second sound at a second location, the modified second sound being a result of sound propagating to the second location;
- determining an adaptive filtering function, the adaptive filtering function approximating the second modified sound from the first sound;
- halting detecting of the modified sound; and
- determining a cancellation signal proximate the second location from the first sound and the adaptive filtering function.

Claim 25 recites a step of determining an adaptive filtering function that approximates a second modified sound from a first sound without requiring additional sound input from the second location.

Applicants submit that Enzmann does not disclose or render obvious at least the above emphasized recitations of Claims 24 and 25. Enzmann proposes that noise is sensed in the first sound region to provide a first electrical signal, and the first electrical signal is processed to produce a second signal, which is converted to anti-noise for attenuation of the sensed noise in the second sound region. *See* Abstract. A microphone is disposed in the second sound region for detecting any noise above a predetermined noise level to provide an error correction signal, which Enzmann also refers to as adaptive filtering. *See* Abstract; col. 2, lines 40-43 (cited in the Action). Applicants submit that the anti-noise signal in Enzmann is apparently based on real-time detection (*see, e.g.*, Claim 2), and thus does not disclose or render obvious halting detecting of the modified sound or an adaptive filtering function that approximates a second modified sound from a first sound without requiring additional sound input from the second location as recited in Claims 24 and 25.

Accordingly, Applicants submit that Enzmann does not disclose or render obvious the recitations of Claims 24-25 and it is requested that the rejections of Claim 24-25 under 35

U.S.C. 102 be reversed.

**E. Claim 26**

Claim 26 recites “analyzing a sound input ... to determine if a change in respiratory sounds occurs sufficient to identify a health condition...” The cited portions of Raviv merely discuss a snoring suppression system. Nothing in Raviv discusses analyzing the signals to identify a health condition or determining if a **change** in respiratory sounds is sufficient to identify a health condition. Notable, changes in respiratory sounds that are sufficient to identify a health condition are apparently not discussed in Raviv.

Accordingly, Applicants submit that Raviv does not disclose the recitations of Claim 26 and request that the rejections under 35 U.S.C. 102 be reversed.

**F. Claims 27 and 31**

Claim 27 recites a system for sound cancellation including “a parametric speaker configured to transmit a canceling sound configured to cancel the detected sound such that the canceling sound is localized with respect to a cancellation location.” Claim 31 recites a method for canceling sound including “transmitting a canceling signal from a parametric speaker that locally cancels the sound with respect to a cancellation location.”

The ultrasonic sensors and ultrasonic transmitters discussed in Raviv clearly do not transmit canceling sounds that are configured to cancel detected sounds or canceled sound that is localized as recited in Claims 27 and 31. Raviv discusses that the ultrasonic sensors are used to determine which speaker is closest and/or has the best directional position to the source snore sound signal. See column 11, lines 33-35. The ultrasonic transmitter 48 is placed in the mouth piece of the person or on the microphone 18 and does not transmit a canceling signal. The ultrasonic receivers 50a, 50b and 50c are located in speakers 42, 32 and 40, respectively. A speaker selector 58 receives the detected ultrasonic signals from the transmitter 48 and determines which ultrasonic receiver 50a, 50b or 50c is receiving the strongest signal and can also determine the distance between the selected speaker and the snore source. See column 10, line 56 - column 11, line 6 (cited in the Action). The speakers

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42, 32 and 40 are selectively activated to output a snore canceling signal. *See* column 10, lines 40-44. Therefore, the canceling signal is output by the speakers 42, 32 and 40 (which are apparently conventional speakers) and not the ultrasonic transmitter 48 (which is used to select one of the speakers 42, 32 and 40).

In addition, Raviv repeatedly emphasizes that the sound canceling system provides global suppression. *See, e.g.*, column 3, lines 14-18; column 3, lines 49-51; and column 6, lines 8-11. Accordingly, Raviv also does not disclose a canceling sound that is localized with respect to a cancellation location.

For at least these reasons, Raviv does not disclose or render obvious all of the recitations of Claims 27 and 31. Claims 28-30 depend from Claim 27 and Claims 32-36 depend from Claim 31 and are likewise patentable. Accordingly, Applicants request that the rejections under 35 U.S.C. 102 of Claims 27-36 be reversed.

### CONCLUSION

For the reasons discussed above, Applicants submit that one or more elements needed for a *prima facie* rejection under 35 U.S.C. §§ 102(b)/103(a) are not present. Therefore, Applicants respectfully request that the present application be reviewed and reversed by the appeal conference prior to the filing of an appeal brief.

Respectfully submitted,



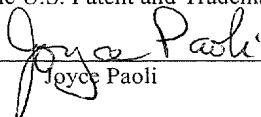
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### CERTIFICATION OF TRANSMISSION

I hereby certify that this correspondence is being transmitted via the Office electronic filing system in accordance with § 1.6(a)(4) to the U.S. Patent and Trademark Office on June 18, 2008

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Joyce Paoli